AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(canceled)**

2. **(currently amended)** A micro-electro-mechanical system (MEMS) variable optical attenuator, comprising:

a substrate having a planar surface;

a micro-electric actuator arranged on the planar surface of the substrate;

a first optical waveguide having a receiving end and a second optical waveguide having a transmitting end, said optical waveguides being coaxially arranged on the planar surface;

an optical shutter driven by the micro-electro actuator and movable to a predetermined position between the receiving end and the transmitting end of the optical waveguides; and

a surface layer formed on the optical shutter;

wherein

said surface layer has a reflectivity less than 80% so as to allow transmission of a portion of incident light into said surface layer;

said surface layer further has a light extinction ratio and a thickness for extinguishing the transmitted portion of said incident light in said surface layer; and

~~The MEMS variable optical attenuator as set forth in claim 1, wherein~~ the surface layer is formed of a material selected from [[a]] the group consisting of ~~comprising~~ Ti, TiO_2, Cr, CrO_2, W, Te and Be.

3. **(currently amended)** A micro-electro-mechanical system (MEMS) variable optical attenuator, comprising:

a substrate having a planar surface;

a micro-electric actuator arranged on the planar surface of the substrate;

a first optical waveguide having a receiving end and a second optical waveguide having a transmitting end, said optical waveguides being coaxially arranged on the planar surface;

an optical shutter driven by the micro-electro actuator and movable to a predetermined position between the receiving end and the transmitting end of the optical waveguides; and

a surface layer formed on the optical shutter;

wherein

said surface layer has a reflectivity less than 80% so as to allow transmission of a portion of incident light into said surface layer;

said surface layer further has a light extinction ratio and a thickness for extinguishing the transmitted portion of said incident light in said surface layer; and

~~The MEMS variable optical attenuator as set forth in claim 1, wherein~~ the surface layer is formed of a double layer comprising a first layer formed of a material selected from [[a]] the group ~~including~~ consisting of Ti, Cr, W, Te and Be, and a second layer formed of TiO_2 or CrO_2.

4. **(currently amended)** The ~~MEMS variable optical~~ attenuator as set forth in claim [[1]] 2, wherein the optical shutter is a flat panel ~~shape and~~ arranged obliquely with respect to an optical axis of said optical waveguides ~~to be oblique between the transmitting end and the receiving end~~.

5. **(currently amended)** The ~~MEMS variable optical~~ attenuator as set forth in claim [[1]] 2, wherein the optical shutter has a first surface perpendicular to an optical axis of ~~the receiving end of~~ the optical ~~waveguide~~ waveguides, and a second surface inclined at an angle less than 90° ~~oblique~~ relative to said optical axis ~~the transmitting end of the optical waveguide with an~~

~~inclination angle less than 90°~~.

6. **(currently amended)** The ~~MEMS variable optical~~ attenuator as set forth in claim [[4]] 5, wherein the optical shutter has a half wedge shape.

7. **(currently amended)** The ~~MEMS variable optical~~ attenuator as set forth in claim [[1]] 2, wherein the actuator includes:

an electrode section comprising a ground electrode fixed onto the substrate and driving electrodes;

a spring arranged on the substrate and connected to the ground electrode at one end thereof; and

a movable mass connected to the other end of the spring and arranged on the substrate to be movable toward the driving electrodes.

8. **(currently amended)** The ~~MEMS variable optical~~ attenuator as set forth in claim 7, wherein the surface layer is formed of a material selected from the group consisting of ~~comprising~~ Ti, Cr, W, Te and Be, and the electrodes are coated with the same material as the surface layer.

9-10. (canceled)

11. **(new)** The attenuator as set forth in claim 2, wherein the surface layer is formed of a double layer comprising a first layer formed of a material selected from the group consisting of Ti, Cr, W, Te and Be, and a second layer formed of TiO_2 or CrO_2.

12. **(new)** The attenuator as set forth in claim 2, wherein said optical shutter has two opposite surfaces facing toward the receiving end and the transmitting end, respectively, and said surface layer is coated on both said opposite surfaces of said optical shutter.

13. **(new)** The attenuator as set forth in claim 2, wherein the surface layer is formed of a material selected from the group consisting of CrO_2, W, Te and Be.

14. **(new)** The attenuator as set forth in claim 3, wherein the optical shutter is a flat panel arranged obliquely with respect to an optical axis of said optical waveguides.

15. **(new)** The attenuator as set forth in claim 3, wherein the optical shutter has a first surface perpendicular to an optical axis of the optical waveguides, and a second surface inclined at an angle less than 90° relative to said optical axis.

16. **(new)** The attenuator as set forth in claim 15, wherein the optical shutter has a half wedge shape.

17. **(new)** The attenuator as set forth in claim 3, wherein the actuator includes:

an electrode section comprising a ground electrode fixed onto the substrate and driving electrodes;

a spring arranged on the substrate and connected to the ground electrode at one end thereof; and

a movable mass connected to the other end of the spring and arranged on the substrate to be movable toward the driving electrodes.

18. **(new)** The attenuator as set forth in claim 3, wherein said optical shutter has two opposite surfaces facing toward the receiving end and the transmitting end, respectively, and said surface layer is coated on both said opposite surfaces of said optical shutter.

19. **(new)** The attenuator as set forth in claim 3, wherein the first layer is formed of a

material selected from the group consisting of W, Te and Be.

20. **(new)** The attenuator as set forth in claim 3, wherein the second layer is formed of CrO_2.

21. **(new)** The attenuator as set forth in claim 3, wherein the first layer is formed of a material selected from the group consisting of W, Te and Be, and the second layer is formed of CrO_2.